ABSTRACT OF THE DISCLOSURE

A method for fabricating an UV-programmed P-type Mask ROM is described. The threshold voltages of all memory cells are raised at first to make each memory cell be in a first logic state, in which the channel is hard to switch on, in order to prevent a leakage current. After the bit lines and the word lines are formed, the Mask ROM is programmed by irradiating the substrate with UV light to inject electrons into the ONO layer under the openings to make the memory cells under the openings be in a second logic state.